

REMARKS

Claims 1 and 7 are amended. New claim 15 is added. No new subject matter is present. Allowance of claims 1-15 is requested in light of the following remarks.

Claim Rejections – 35 USC § 103

Claims 1-14 are rejected under 35U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,612,077 to Tracy et al. (“Tracy”) in view of U.S. Patent No. 6,302,964 B1 to Umotoy et al. (“Umotoy”). The applicant disagrees.

With regard to claim 1, it recites, *inter alia*, an injection plate attached to a bottom surface of the bottom wall, *the injection plate having grooves on an upper surface of the injection plate* that connect the gas inlets (emphasis added). When not defined in the specification, words of a claim must be given their plain meaning. MPEP 2111.02, *citing In re Sneed*, 710 F.2d 1544 (Fed. Cir. 1983). Plain meaning refers to the meaning given to the term by those of ordinary skill in the art. *Id.* According to the American Heritage Dictionary of the English Language (4th ed., 2000), a “surface” of an object is the outer or topmost boundary of the object. The applicants use the term “upper surface” in claim 1, thus indicating the upper, outer boundary of the injection plate.

Contrary to the plain meaning of the feature recited in claim 1, Tracy’s alleged grooves 68, 70, 72 are actually circular plenums located *entirely inside* the boundary of the alleged injection plate 12 (FIG. 3; column 3, lines 22-25; emphasis added). Thus, Tracy does not teach the feature of an injection plate having grooves on an upper surface of the injection plate.

It is not alleged that Umotoy discloses, nor does it disclose, an injection plate having grooves on an upper surface of the injection plate. See, e.g., Umotoy FIG. 6, where the openings 604, 606 of Umotoy FIG. 9 appear as holes, and not grooves that connect the gas inlets. Consequently, the Tracy/Umotoy combination fails to establish *prima facie* obviousness for claim 1 because it does not teach or suggest every feature in the claim (MPEP 2143.03).

Additionally, claim 1 recites, *inter alia*, a body having a bottom wall and a plurality of gas inlets. It is alleged that Tracy teaches a body (20, FIG. 3) having a bottom wall and a plurality of gas inlets (50, 52, 54, 56, 58, 60). To the contrary, Tracy teaches that the support plate 20 has *only one* gas inlet 40 from the source 22 (FIG. 3; column 3, lines 10-13; emphasis added). The alleged plurality of gas inlets are actually capillary tubes 50, 52, 54, 56, 58, 60, 62, 64, 66, 68 that form part of the electrode 12 (FIGs. 2 and 3; column 3, lines 19-22). The electrode 12 is alleged to be the recited injection plate that is attached to the

bottom surface of the alleged body 20. As can be seen by Tracy FIGs. 2 and 3, the alleged plurality of gas inlets 50, 52, ..., 66, 68 are physically distinct and separate from the alleged body 20, and are in actuality attached to the alleged injection plate 12. In other words, contrary to the features recited in claim 1, the alleged gas inlets 50, 52, ..., 66, 68 are not part of the alleged body 20.

Furthermore, the Examiner has agreed that contrary to the features recited in claim 1, Tracy does not teach that the alleged plurality of gas inlets (50, 52, etc.) perforate the alleged bottom wall of the alleged body 20 (page 5, subsection xiii).

It is further alleged (page 6, subsection iii) that Umotoy's faceplate 130 (FIG. 9; column 5, lines 51-53) is the recited body having a bottom wall (148; FIG. 9) with a plurality of gas inlets (204, 206, 210; FIG. 9) that perforate the bottom wall. Thus, Tracy's support plate 20 is apparently being modified or replaced with Umotoy's faceplate 130 to arrive at the claimed invention.

To the contrary, the faceplate 130 taught by Umotoy is not a "body" that is consistent with the features recited in claim 1. The relationship between the recited body and the recited injection plate is clearly defined. Claim 1 requires that the injection plate be attached to a bottom surface of the body. To the contrary, the alleged body 130 has a plurality of mounting bores 904 "to facilitate affixing the faceplate 130 to the gas distribution manifold 132" (FIG. 9; column 6, lines 13-18). As shown in FIG. 11, the alleged body 130 is mounted to the underside of the gas distribution manifold 132 (column 6, lines 38-41). As shown in FIGs. 9 and 11, there is no injection plate (or any other component) attached to the bottom surface of the alleged body 130. Thus, Umotoy's faceplate 130 may correspond to the recited injection plate, but it does not correspond to the recited body.

Furthermore, it is an intended purpose of Tracy's cooling plate 20 to circulate the coolant 24 and provide for cooling of the electrode 12 (FIG. 3; column 2, lines 58-60). Umotoy's faceplate 130 has no provision for the circulation of coolant (column 5, line 50 to column 6, line 18). Thus, replacing or modifying Tracy's cooling plate 20 with Umotoy's faceplate 130 would render Tracy unsatisfactory for its intended purpose, consequently there can be no suggestion or motivation to make the proposed modification. MPEP 2143.01, *citing In re Gordon* 733 F.2d 900 (Fed. Cir. 1984).

Furthermore, claim 1 is amended to recite, *inter alia*, that the injection plate is formed of a single, integral unit. This amendment is fully supported by the original application at, e.g., FIGs. 3 and 4.

To the contrary, Tracy teaches that the alleged injection plate is formed of a plurality of non-integral components, e.g., the center disc 27 and concentric nesting rings 28, 30, and

32 (FIGs. 2 and 3; column 3, lines 3-5). The adjacently spaced concentric nesting rings 28, 30, 32 and the center disc 27 form a plurality of slit openings 34, 36, 38 on the underside of the alleged injection plate 12 (FIG 3; column 3, lines 7-9). The intended purpose of the slit openings 34, 36, 38 is to allow gas from the plenums 68, 70, 72 to pass into the reactor 16 (FIG. 3; column 3, lines 25-26).

Umotoy is not alleged to teach an injection plate formed of a single, integral unit. Even if Umotoy's faceplate 130 was considered to be the recited injection plate, it is clear that the faceplate 130 is assembled from separate gas distribution plates 148 and 150 (FIG. 9; column 5, lines 51-52).

Furthermore, the applicants submit that even if an injection plate formed of a single, integral unit is found in other references, there can be no motivation or suggestion to modify Tracy in such a manner because it would render Tracy's slit openings 34, 36, 38 unsatisfactory for their intended purpose. MPEP 2143.01, *citing In re Gordon* 733 F.2d 900 (Fed. Cir. 1984). As explained above, it is the purpose of Tracy's slit openings 34, 36, 38 to allow gas from the plenums 68, 70, 72 to pass into the reactor 16. Tracy's slit openings 34, 36, 38 exist because the injection plate 12 is **NOT** formed of a single, integral unit (FIG 3; column 3, lines 7-9; emphasis added).

For all the reasons outlined above, the Tracy/Umotoy combination fails to establish *prima facie* obviousness with respect to claim 1 (MPEP 2143).

Claims 2-6 depend from claim 1. Any claim that depends from a nonobvious independent claim is also non-obvious. MPEP 2143.03, *citing In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

New claim 15 is added that recites the feature that the injection plate has grooves on an ***uppermost surface of the injection plate*** (emphasis added). New claim 15 fully supported by the application as filed at, e.g., FIG. 3, FIG. 4, and page 5, lines 8-16.

In the Advisory Action mailed 30 April 2004 the Examiner stated that "Tracy teaches grooves ... on [an], one of many upper surface[s] of the injection plate." As explained above with respect to claim 1, it is believed that the plain meaning of the term "upper surface" distinguishes over the alleged grooves that occur inside Tracy's alleged injection plate.

At any rate, new claim 15 recites grooves on "an uppermost surface" of the injection plate. There can be only one "uppermost surface." Tracy FIG. 3 does not show that the alleged grooves 68, 70, 72 are on the uppermost surface of the alleged injection plate 12.

It is not alleged that Umotoy discloses, nor does it disclose, an injection plate having grooves on an uppermost surface of the injection plate. See, e.g., Umotoy FIG. 6, where the

openings 604, 606 of Umotoy FIG. 9 appear as holes (NOT as grooves) that connect the gas inlets.

Consequently, the Tracy/Umotoy combination fails to establish *prima facie* obviousness for claim 15 because it does not teach or suggest every feature in the claim (MPEP 2143.03).

With regard to claim 7, it is amended to recite, *inter alia*, an injection plate having an upper exterior surface with grooves (emphasis added). This amendment is fully supported by the original application at, e.g., FIGs. 3 and 4. Contrary to this feature of claim 1, Tracy's alleged grooves 68, 70, 72 are actually circular plenums located *entirely inside* the alleged injection plate 12 (FIG. 3; column 3, lines 22-25; emphasis added).

It is not alleged that Umotoy discloses, nor does it disclose, an injection plate having an upper exterior surface with grooves. See, e.g., Umotoy FIG. 6, where the openings 604, 606 of Umotoy FIG. 9 appear as holes, and not grooves that connect the gas inlets. Consequently, the Tracy/Umotoy combination fails to establish *prima facie* obviousness for claim 1 because it does not teach or suggest every feature in the claim (MPEP 2143.03).

Claims 8-14 depend from claim 7. Any claim that depends from a nonobvious independent claim is also nonobvious. MPEP 2143.03, citing In re Fine, 837 F.2d 1071 (Fed. Cir. 1988).

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-15 of the application as amended is requested. Please telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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